

Open-Response

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What's the New Price?

This graph shows information about last year's total cost for a banquet for  $n$  students.

This year the cost per person has decreased by \$5, but the initial fee has doubled.

Determine an equation to represent total cost,  $C$ , for this year.

$C =$  \_\_\_\_\_

Show your work.

Describe **two** ways the graph for total cost for this year will be different from the graph for total cost for last year.

Justify your answer.

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What's the New Price?

This graph shows information about last year's total cost for a banquet for  $n$  students.

This year the cost per person has decreased by \$5, but the initial fee has doubled.

Determine an equation to represent total cost,  $C$ , for this year.

$C = 11n + 1200$

Show your work.

Describe **two** ways the graph for total cost for this year will be different from the graph for total cost for last year.

Justify your answer.

Slope of  $C_2 = 11$  vs 16

Yintercept = 1200 vs 600

Therefore more expensive set up charge but cheaper cost per plate

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Draining Away

Water drains out of two different containers at constant rates. Information about the volume of water in the containers over time is given below.

Time (min)	Volume (L)
1	54
3	32
5	10

Out of which container is the water draining at a faster rate?

Circle one:      Container A      Container B

Justify your answer.

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Out of which container is the water draining at a faster rate?

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Justify your answer.

Container A:  $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{32 - 54}{3 - 1} = \frac{-22}{2} = -11$  L/min

Container B:  $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{10 - 54}{5 - 1} = \frac{-44}{4} = -11$  L/min

Container A drains faster b/c it has a steeper slope